

## Controlling Invasive Species That Affect Native Wildlife May 10, 2005

*Note: The following summary of the results of this workshop reflects the collective discussion and general conclusions of the workshop participants and does not necessarily reflect the views of the Department of Fish and Game, the Wildlife Diversity Project at UC Davis, or any individual participant.*

### ***The Issue***

**Invasive** species, including animals, plants, and pathogens, are ranked among the major statewide stressors affecting California's native wildlife, but the state does not have an adequate program or legal framework to address their prevention, monitoring, control, and eradication. Currently, Fish and Game has only one position to coordinate the state's invasive species control efforts, and several state agencies have people working on scattered invasive species projects. For invasive species cases that threaten agricultural crops, however, the state has a well-defined program, a powerful legal framework, and funding to aggressively implement control and eradication efforts. California needs a more substantial policy and legal framework with clear direction regarding their prevention, control, and eradication, to reduce the effects of invasive species on wildlife.

With the possible exception of alpine natural communities, California is remarkably vulnerable to species invasions, and almost all of the state's ecosystems are at risk. Riparian systems, estuaries, deserts, grasslands, forests, and Mediterranean ecosystems are all under siege. Freshwater systems and islands are especially susceptible to species extirpations caused by invasive species. Invasive plants like medusahead and French broom harm wildlife directly by producing harmful awns and seeds. Introduced fishes can directly compete with native species, prey on them, or hybridize with them. The invasive pathogen Sudden Oak Death destroys acorn-producing trees, an important food source for native wildlife. In addition to direct harm to wildlife, invasive alien species such as arundo also cause widespread degradation of wildlife habitats.

### ***Current Situation***

Although there is significant activity directed toward prevention and management of invasive species, these efforts do not add up to a cohesive, coordinated program.

A substantial amount of invasive-species work is being conducted by diverse groups throughout California. The agencies working on invasive species generally agree on the approach. The problem, however, is that the state's geographic size and diversity of habitats

make it difficult to set priorities for such work. There is presently a hodge-podge of policies and procedures concerning invasive species but no overarching policy.

Good lists of invasive species exist for plants and animals, but the data are scattered in various locations.

Invasive plants are well identified in the California Invasive Plant Council database, and life-history and control information is available for many of the 300 species on the list. At present, CAL-IPC is regionalizing the list to make it more relevant to land managers.

Lists of invasive terrestrial animals are located in a few places. The National Park Service manages a database called NP Species that covers terrestrial and aquatic invasive vertebrates in national parks and adjacent lands. The NP Species list is prioritized for management action. The U.S. Geological Survey has an invasive vertebrates list. Fish and Game maintains a list of animals that are prohibited for import (not necessarily invasive species). A federal list of injurious animal species is maintained by the Department of the Interior.

Some lists cut across species groups. The California Aquatic Invasive Species Management Plan includes aquatic plants and animals in freshwater and marine habitats. Lists of invasive pathogens seem to be less well developed. Most of these lists and databases identify new invaders to watch for so they can be immediately treated.

Setting priorities for invasive species work is difficult due to California's great size and diversity of habitats.

Some work on risk factors of invasive species is being done at the University of California, Davis, and elsewhere, but a useful framework for prioritizing efforts on ecological and taxonomic criteria is still lacking.

Priorities might include controlling invasive species in California's protected areas like state or national parks or focusing on controlling invasive species in representative habitats of each region of the state through prevention, early detection, and eradication and control of existing invasive species populations. Prioritization of invasive species management should be based on scientifically based strategies.

The Department of Food and Agriculture has a well-managed, comprehensive program and policy framework for preventing and managing invasive species that threaten agriculture. Agricultural inspection stations at state borders, early detection and eradication authority and capacity, and funding sources (even though declining) are all in place to address the threat of invasive agricultural pests, but there is no such system for invasive species that pose threats to wildlife. Several parts of a system exist through executive orders and the individual efforts of some agencies and nongovernmental organizations, but the effort remains less than a coordinated, effective program.

Some existing efforts:

- California Fish and Game Commission is now reviewing its policy regarding the introduction of exotic species to include exclusion of invasive species.
- CALFED's 2000 strategic plan discusses and allocates funding for invasive species.
- State Lands Commission has oversight for aquatic invasive species through ballast water and hull fouling.
- California Department of Water Resources has some educational programs aimed at prevention but no funding to implement them.
- California Division of Forestry considers forest pests and pathogens.
- California Department of Boating and Waterways considers aquatic plant management.
- California Department of Public Health samples for invasive species and human-health pathogens.
- California Water Resources Control Board is addressing non-native amphibians in reservoirs.
- California State Parks manages and conducts research on invasive species.

A current gap in the policy framework is the lack of capability to respond rapidly to new invaders, including funding, prior environmental review, and authority for fast action when the need arises.

Federal fire response now includes invasive species control after the fire, and it is integrated with local efforts through the Burn Area Emergency Rehabilitation and fuel-load control programs. The National Park Service is working to gain authority to work on adjacent lands, and the Department of Defense has a memorandum of understanding with the state of California to work on adjacent lands.

### ***Needs Identified***

#### **Create a state coordinating body for invasive species management.**

- Create a program with a lead agency at the statewide level, and establish a non-native invasive species advisory council with broad overview and agency representation.
- Compile all the existing invasive species lists, and organize this list on a common data platform as a Web-based decision support system for easy accessibility.
- Identify the leading mechanisms through which invasive species enter the state, and develop the actions to prevent their entry. The various organizations working on invasive species lists are good candidates to do this, beginning with the Department of Agriculture's extensive experience on this topic.

- Develop criteria for prioritizing invasive species projects and funding by geography, stage of invasion, and the cost-benefit of actions.
- Create regional invasive species strategies that outline key species, key constituencies, sources of funding, and an action plan.
- Develop a priorities plan and funding for freshwater systems, beginning with alpine ponds and moving toward more complex systems like valley rivers.

**Develop rapid response capacity to identify and eradicate early invaders.**

- Develop a rapid response model like the Office of Spill Prevention and Response program, with a rapid response team and emergency fund to tackle new invasions. Cooperative Weed Management Areas groups, watershed groups, and resource conservation districts could be part of the rapid response team.
- Develop early-warning protocols.
- Elevate the priority of research on prevention methods.
- Properly staff existing agricultural check stations.
- Expand emergency eradication provisions from noxious weeds to animals.
- Prepare programmatic environmental reviews under the California Environmental Quality Act and the National Environmental Protection Act, to be completed in advance of the need for emergency response.
- Establish a multidisciplinary research center with dedicated staff to study priority issues.

**Engage key audiences and stakeholders on how they can reduce the threat to native wildlife posed by invasive species.**

- Conduct a general education program to engage members of the public in prevention and to foster increased support.
- Include invasive species in leadership training for community leaders, including agency leaders, master gardeners, pet store owners, and local elected officials.
- Encourage the use of horticultural species and pet species that are not potentially invasive species in California. Publish lists of preferred species and likely invasive species, such as the one published by the Missouri Botanical Garden, to help consumers choose products. Consider nursery certification and plant labeling. Work with the aquarium industry to prevent releases of invasive aquatic species.

***Workshop Participants***

Allen, Sarah, Point Reyes National Seashore  
Brusati, Elizabeth, California Invasive Plants Council  
Cassell, Jodi, California Sea Grant  
Delfino, Kim, Defenders of Wildlife  
Ellis, Susan, Department of Fish and Game  
Garcelon, Dave, Institute for Wildlife Studies  
Geupel, Geoff, PRBO Conservation Science  
Goldsmith, Jay, National Park Service  
Grosholz, Ted, UC Davis Cooperative Extension  
Herod, Jeff, US Fish and Wildlife Service  
Hoshovsky, Marc, Dept of Fish and Game  
Johnson, Doug, California Invasive Plants Council  
Jurek, Ron, Department of Fish and Game  
Marty, Jamie, Nature Conservancy  
Mueller, Mary Ellen, USGS Western Ecological Research Center  
Schoenig, Steve, California Department of Food and Agriculture  
Schuyler, Pete, Catalina Conservancy  
Tershy, Bernie, Island Conservation